D R A F T   dated 9 July, 1997

AM1 Science Data Processing End-To-End Confidence Test : EGS10

Overview and Scope:

The end-to-end AM1 Science Data Confidence test (EGS10) is one of the EGS System level tests. It aims to demonstrate the readiness of the **DAAC as one unit** to generate, archive, and distribute the L1 and higher level science data products. It will be conducted towards the end of the test program after the component (science data processing) and interface confidence tests which focus on the individual subsystems and interfaces. The EGS10 will have the key elements of SFQ1, SFQ2, SFQ3, SFQ5, and SFQ6, and will have instrument threads running through all the DAAC subsystems. The test will aim to ingest the Level 0 and ancillary data and generate the finished products which the users should be able to access as planned. The intent is to verify that the individual subsystems at the DAACs interface with each other well. The test should help us in assessing how smoothly the DAAC works as a whole (and to some extent with the sources and destinations of the data products) in meeting the requirements of the science community as defined in the F&PRS document. This draft defines the scope, the functional requirements to be tested, and an outline of the end-to-end tests. The scope can be listed as,

- The tests are conducted on a DAAC-by-DAAC basis, and are limited to the DAACs at GSFC, EDC, LaRC, and NSIDC.
- The tests will focus on instrument threads beginning at the **ingest** stage and ending with the science users accessing the L1and higher level products using the V0 B0SOT (or available) client interface.
- The tests will focus on functional capabilities. Performance will be addressed by a separate set of tests called EGS11.
- Only B0 capabilities will be considered for now. The tests can be enhanced for the additional capabilities being provided by B1, as and when necessary.
- A representative set of scenarios, PGEs and associated ESDTs and data will be selected for each DAAC for the tests in consultation with DAACs and instrument teams.

Some of the assumptions are:

1. The interfaces between the DAACs and other elements of the EGS such as EDOS, FDF, NOAA ADC, and other DAACs are fully operational as per EOSDIS requirements.
2. The DAACs are configured as per requirement and each element of the ECS at the participating DAAC has been tested and is operating properly.
3. The Product Generation Executives (PGEs) required to produce the L1-L4 products for the MODIS, MISR, MOPITT and CERES instruments are available and integrated into the DAAC configurations.
4. Science data (from the instruments, where possible) granules are available for the tests.
5. The ESDTs required for these tests are defined and available in the system.
6. The instrument teams will help in selecting candidate data sets, ESDTs, and PGEs that are to be used during this test, as well active part during the test.
7. EBnet and NSI connections to all the DAACs have been qualified to EGS requirements.

The related tests which have to precede the EGS10 are:

1. Data Ingest and Archive Confidence Test (SFQ1).
2. Science Data Production Confidence Test (SFQ2).
3. Data Access and Transfer Confidence Test (SFQ3).
4. V0 Interoperability Confidence Test (SFQ5).
5. Data Manipulation Confidence Test (SFQ6).

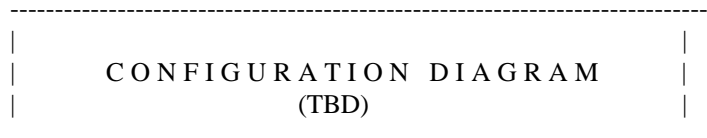*Author: Mohan Murthy. mvm@intermetrics.com Ph: 301-982-5414*

6. ECS SDP - SCF Interface Confidence Test (ICT1).
7. ECS SDP - EDOS Interface Confidence Test (ICT3).
8. ECS SDP - NOAA ADC Interface Confidence Test (ICT4).
9. ECS SDP - GDAAC Interface Confidence Test (ICT5).

Test Objectives:

- Processing L0 data for each instrument (of interest to the DAAC) **separately** to generate and access/distribute higher level products.
- Processing L0 data for all instruments (of interest to the DAAC) **concurrently** to generate and access/distribute higher level products.

Test Configuration:

All hardware and software required at the concerned DAAC configured as per requirements.

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|            C O N F I G U R A T I O N   D I A G R A M          |
|                              (TBD)                                        |
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Requirements to be verified :

- Ingest of AM1 Level 0 data from EDOS
- Ingest of ASTER L1A and L1B data (from D3 tape).
- Ingest of ancillary data (from FDF, NOAA).
- Automatic scheduling of PGE execution triggered by ingest of input data.
- Concurrent execution of PGEs (details TBD).
- ECS support for advanced production rules.
- Proper archival of higher level products and associated metadata.
- User access to the archives.
- Data manipulation and distribution.

Participants and support Requirements:

- DAAC personnel (details TBD)
- Science users (details TBD)
- Instrument team members (details TBD)
- EDOS support for L0 and Ancillary Data
- FDF support if needed (details TBD)
- Support from other DAACs where relevant (for example, remote acquire of data needed for science data production)
- NOAA ADC support for ancillary data
- EBnet support for data interfaces
- NASA Science Internet support for science user interface (requests, data products)

Test Scenarios: TBD.   The scenarios will be finalized after discussions with concerned DAACs and other participants.

Test Cases: TBD

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Data flow: TBD

Requirements: TBS

Success Criteria: All the capabilities identified for B0 science data ingest, production, archival and distribution are met.

Development Schedules: TBD (target date for maturity: October 1, 1997)

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